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AUTHOR Jay, Joelle K.
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ABSTRACT

This paper examines issues related to reflective teaching, noting its role in teaching in general. The first section surveys the literature on reflection, exploring reflection from different angles as it applies to teaching and noting that these angles comprise a single concept of reflection. The rest of the paper examines what reflection is, in order to better understand how reflection can be learned. The paper investigates: reflection as a problem-solving technique; reflection as a frame analysis; reflection as a bridge between theory and practice; spontaneity and the Zen of reflection; appreciating the complexity of reflection; and essentials of the process of reflective practice (descriptive, comparative, and evaluative). The paper concludes that by using reflection as a problem-solving technique, teachers can know a good day's teaching because they can recognize and solve problems that arise. Through reflection as a frame analysis, they can examine their own biases and assumptions and change them when needed. Applying reflection as a bridge between theory and practice lets them learn from new theories and apply them directly to their classrooms. Reflecting with Zen-like mindfulness, they can be present in the moment so that teaching moves to the rhythm of their students. (Contains 15 references.) (SM)

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Untying the Knots: Examining the Complexities of Reflective Practice

Joelle K. Jay

Box 353600
122 Miller Hall
University of Washington
Seattle, Washington 98195-3600
jjay@u.washington.edu
(206) 523-7254

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Introduction

In many endeavors, there comes a point where one must stop and assess the situation—step back, look around, and get perspective. My endeavor to understand reflection has come to this point. At the University of Washington, reflection plays a central role in the education of teachers. Students practice reflection even as they learn about it; faculty and TAs teach reflection while grappling with how to teach it; researchers study reflection with such diversity that it becomes difficult to define. At all levels, we in the College of Education practice reflection as a collection of strategies and a way of being but find it difficult to explain our practice; we know reflection when we see it, and we know its importance, and yet, we are tangled in its complexity. My goal for this paper is to think through the snarls—to disentangle some of my own thoughts without actually unweaving the strands of reflection itself, for its beauty lies in its complexity.

In the first section, I will step back from my ideas about reflection for a moment and survey the literature on reflection for the purpose of regaining some perspective. Examining reflection in its complexity reveals its essential characteristics, shows how, when, and why good teachers characteristically reflect, and highlights the value of reflecting. I will explore reflection from different angles as it applies to teaching, keeping in mind that these angles comprise a single concept of reflection.

In the second section, I will step back into the entangling struggle over how reflection might be taught—using this fresh perspective about what reflection *is* to understand better how reflection can be *learned*. I will try to untie some of the knots that

make the process of reflecting so intricate, and explain how those who are learning to reflect might retie them.

As a whole, this paper might be seen as a reflection on the practice of reflection. It is neither comprehensive nor conclusive in its intent, but aims rather to focus and contribute to a discussion about the role of reflection in teaching.

Rationale for Reflection

The National Commission on Teaching and America's Future report on *Doing What Matters Most: Investing in Quality Teaching* states as one of its three main premises, "What teachers know and can do is the most important influence on what students learn" (cited in Schultheiss, 1998). This underlying belief about education and what makes it work has powerful implications: if we want to have good education, we need to have good teachers; if we want to have good teachers, we need to know what makes them good. Only then can we hope to foster teachers who will succeed.

Until recently, efforts to explain what teachers do focused primarily on two, relatively tangible areas of study: knowledge and skills (Lebuis et al., 1993; Schön, 1983; Shulman, 1987). This view of teaching implies a static view of the profession in which teachers can learn the knowledge and skills and be prepared to effectively teach. But a finite body of knowledge and skills doesn't accommodate the changeability and unpredictability of the classroom, which effective teachers somehow find ways to manage—a talent that requires a certain disposition (Schön, 1983; Valli, 1997). Because theories about teachers' knowledge and skills fail to explain this talent, or these less tangible, yet essential, ways in which teachers succeed, a new area of study has emerged: the study of reflection. This view of teaching implies that while knowledge and skills are

essential for teachers, so are certain ways of thinking, or reflecting on what they do. Reflection seems to be another piece of the puzzle, in addition to knowledge and skills, that explains not just what teachers do, but how good teachers do it.

Dewey (1933) originally defined reflection as the "active, persistent and careful consideration of any belief or supposed form of knowledge in the light of the grounds that support it and the further conclusions to which it tends" (p.9). This definition has undergone much interpretation in its application to teaching, where the idea of reflection has been used to describe what goes on in the minds of good teachers who foster effective learning. Valli (1997) offers a fairly summative description of reflective teachers, who she says "can look back on events, make judgments about them; and alter their teaching behaviors in light of craft, research, and ethical knowledge" (p.70). She lists some of the many things teachers reflect upon, including student learning, motivation, goals, purposes, processes, subject matter, curriculum, school organizations, and institutional culture" (Valli, 1997, p.70). The ways in which reflection can shed light on these different educational issues for teachers are unique, numerous and complex. While it is essential to remember that reflection is one composite concept, looking at it in from different angles can help us see it as a whole more clearly.

To illustrate this, below I will employ the experience of teacher Karen Evans as she writes about it in "Teacher Reflection as a Cure for Tunnel Vision" (1995) to describe one example of teacher reflection from several different angles. I refer to these angles as forms reflection takes: reflection as a problem-solving technique, as frame analysis, as a bridge between theory and practice, and as Zen-like mindfulness.

Reflection as a Problem-Solving Technique

Reflection can be viewed as a problem-solving technique—a strategy for working out the problems of teaching. The word 'problem' here is being used to encompass any "puzzling, or troubling, or interesting phenomenon with which the individual is trying to deal" (Schön, 1983, p.50). Such problems may be specific and explicit, as when teachers know that the curriculum isn't working for their students and find they need to make a change. Or, problems may be vague or implicit, as when teachers sense a resistant tone from a class, but don't know why. A problem may be recognized on an intellectual or emotional level, for "our feelings inform our ways of behaving" (Coldron & Smith, 1995, p.2). Once the problem has been defined, or "set," a teacher can often make sense of it by reflecting on, or thinking about, the situation (Schön, 1983, p. 18). In short, in a purposeful and deliberate way, one "thinks the problem *out*" (Dewey, 1933, p.6).

The personal nature of reflection and the idiosyncrasies of classrooms means that reflection as a problem-solving technique may not always be consistent, but several common processes generally seem to take place. These processes include describing the situation, surfacing and criticizing initial understandings and assumptions, and persisting, with an attitude of open-mindedness, responsibility, and whole-heartedness (Dewey, 1933; Kennedy, 1995; Schön, 1983; Valli, 1997). Evans (1995) provides an example of reflection as problem solving.

In "Teacher Reflection as a Cure for Tunnel Vision" (1995) teacher Karen Evans describes trying writer's workshop in her classroom, using the topic of family stories. In her own words, "quite simply, it was a disaster" (p. 267). In her process of reflecting to

first understand, and then redress this instructional "problem"—a process that takes several months—Evans goes through several stages. While trying new strategies to make the writer's workshop work, she continues reflecting through journalling and dialoguing with colleagues. But, she says, "despite my efforts to reflect critically in an attempt to understand better what was happening in my classroom, I was unable to come up with any answers that generated more positive results" (p. 267).

Like many of the problems of teaching, Evans' is complex. Her intellect tells her that the writers' workshop she has implemented is failing to elicit desired results from her students, and her feelings tell her that there are underlying issues, as yet, beyond her understanding. To set the problem she persists in reflecting, until ultimately, "an explanation for [students'] unwillingness to write emerged. It related to the initial topic I chose for introducing writer's workshop—family stories" (p. 268). She learns that many of her students' lives contain "violence, poverty, rejection, hopelessness, and abuse" (p. 268). Evans believes their lack of success with family stories is linked to an unreadiness to reveal their home lives. She also discovers students' unfamiliarity with the writing process and the values implicit in its use. She writes,

> Coming to this realization thorough my continued reflective efforts helped me understand *why* my students were resisting writer's workshop; however, I now needed to determine what to *do* about the situation. I was reflecting on how things were progressing (or not progressing, as was the case) and how I could modify the workshop yet another time when it suddenly came to me: Who said I had to do writer's workshop as a specific component of our literacy instruction at all (p. 268)?

Evans' comments show reflection as more than simply looking back over what she has done; it also helps her see where she can go next. Setting and responding to the problem has led Evans to this new understanding, or "thought transformation," which she then "embodies in further action" (Kennedy, 1995; Schön, 1983, p.50). In the rest of the article, Evans describes how her breakthrough resulted in a much more successful writing experience for her students. The point is not that writer's workshop fails as a technique (Evans continues to support it), but that reflection helped her find that "a certain type of context [may need] to be built before a particular practice can be implemented" (p. 270). Evans' case illustrates how teachers use reflection successfully to solve problems interfering with student learning.

To summarize reflection as a problem-solving technique, its purpose is "to untangle a problem or to make more sense of a puzzling situation; reflection involves working toward a better understanding of the problem and the ways of solving it" (Loughran, 1995, p.4). The potential of reflection to increase the effectiveness of teaching has, understandably, led to efforts to describe the processes of reflection so they can be learned and applied by teachers. For example, Dewey's cycle of reflection involves five (not necessarily sequential) steps: "suggestion, problem, hypothesis, reasoning, and testing" (Loughran, 1995, p. 4). Another example is Schön's ladder of reflection, which comprises:

1. a practice;
2. the description of the practice;
3. the reflection on the description of the practice;
4. the reflection on this reflection (Lebuis et al., 1993, p.81).

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Such outlines can inform the goal of nurturing quality teaching through the teaching of the reflective process, although their use should never reduce the process to a systematic series of steps which ignore reflection's natural mystique. Together with pedagogical skills and knowledge, reflection helps to round out the picture of what it is that effective teachers do (Schön, 1983; Tremmel, 1993).

Reflection as a Frame Analysis

While reflection as a problem-solving technique presumes the known or sensed recognition of a problem, another type of reflection can reveal more subtle issues that may not even be recognized on a conscious level. This type of reflection can help teachers uncover their tacit assumptions—a process Schön calls "frame analysis."

> At any given time in the life of a profession, certain ways of framing problems and roles come into good currency. ...they bound the phenomena to which [professionals] will pay attention. Their frames determine their strategies of attention and thereby set the directions in which they will try to change the situation, the values which will shape their practice (Schön, 1983, 309-313).

Returning to the example or teacher Karen Evans (1995), at first her frame was writer's workshop. This frame determined her strategies for solving the problem as those which often solve problems of writing (brainstorming, modeling, consulting with a Chapter I teacher). The frame set the direction in which she tried to address the situation—that is, she focused on making the writer's workshop work. In other words, Evans was working within her frame, reflecting *from* it in trying to change the situation. As Schön (1983) points out, "when practitioners are unaware of their frames for roles or problems, they do

not experience the need to choose among them. They do not attend to the ways in which they *construct* the reality in which they function; for them, it is simply the given reality"(Schön, p. 310).

Evans' initial lack of attention to her construction of reality provides an example of how teachers who are not reflective practitioners can fall victim to their blind spots. What she calls her "tunnel vision" led her to assume a willingness in her students to share their family lives in writing—a misconception that became glaringly obvious when she got to know them better. When Evans' assumptions were challenged by her students' personal reality and past writing experience, she then considered reflecting *on* her frame.

> My students were predominately African American, Hispanic, and Native American. Most were living near or below the poverty level in single-parent homes. Many viewed me as the "rich, white lady" who knew nothing about their worlds and the issues they faced in their everyday lives (Evans, 1995, 267).

Becoming aware of this alternative perspective of herself made it possible for Evans also to surface the assumptions inherent in her teaching approach. In writer's workshop, for example, she had assumed that all students would want to write about family stories and that her students understood and valued the writing process. Recognizing the assumptions inherent in her cultural perspective allowed her to challenge them, change them and, eventually, change the situation.

For Evans, frame analysis occurred only when the reality of student's home lives helped break her out of her original frame. Yet frame analysis is not necessarily dependent upon such a jarring occurrence for a catalyst. Reflective teachers might

purposefully examine their own perspectives question their own assumptions—an essential step in avoiding "tunnel vision."

> When a practitioner becomes aware of his frames, he also becomes aware of the possibility of alternative ways of framing the reality of his practice. He takes note of the values and norms to which he has given priority, and those he has given less importance, or left out altogether (Schön, 1983, 310).

Then, frame analysis is similar to problem-solving when a problem is explicitly evident (the case with Evans), but also offers potential for helping teachers attempting to surface hidden, implicit problems that they often don't even realize exist. In short, this type of reflection "looks back on assumptions and beliefs to be sure they are grounded in logic, evidence, or both, and it looks forward to the implications or consequences of a particular course of action" (Valli, 1997, p.68).

Reflection as a Bridge between Theory and Practice

Reflection as both problem solving and frame analysis can help resolve explicit and implicit problems of teaching as teachers reflect on their practice for the purpose of improving teaching. But teachers can also reflect on theory, defined as relevant knowledge and varied sources of information that can help inform teachers' practice, even when there are no 'problems' to report (Dewey, 1933, p.15; Valli, 1997, p.70).

Reflection on theory is a means by which teachers can use their judgement and experience to render abstract ideas more practical, personal, and meaningful. "Only when things about us have meaning for us, only when they signify consequences that can be reached by using them in certain ways, is any such thing as intentional, deliberate control

of them possible" (Dewey, 1933, p.18). Reflection can be viewed as a process by which a teacher can try on a theory, consider its meaning and consequences in a particular context, and experiment with the application in practice. For example, Evans, as a white woman teaching racially diverse students, might consider the work of Delpit (1988), who advocates making the 'rules' of teaching and learning more explicit (and therefore, possible to learn and follow, or change accordingly). Evans might also contemplate the work of Brice-Heath (1982), who exposes differences in questioning techniques among cultures that can cause miscommunication in diverse classrooms. Additionally, Evans might reflect on the differences between Native American culture and traditionally "white" classroom culture[1]—differences involving norms for participation and leadership, for example—that interfere with the learning process (Philips, 1972). Simply reading these and other pieces might seem thought-provoking but inaccessible at first, but reflecting on them with particular students in mind has the potential to personalize them in such a way that they become accessible and can inform instruction. Evans might being by exploring theories of teaching for diversity suggested by these and other writers by incorporating them into her teaching approach, then reflecting on the result--continuing to study, test, and reflect on the idea until perhaps her practice becomes transformed and more effective for those students. Or, perhaps her reflection reveals that her experiment with these ideas has no particular effect and that, in fact, her original teaching style was more conducive to learning in her class. This example illustrates how theory made accessible by reflection might affect a teacher's practice.

[1] For more information about participant structures related to culture, see Brice-Heath, 1982; Delpit, 1988; Moll & Greenburg, 1990.

Choosing among and synthesizing the theories that abound is another way of gaining new perspective on one's own teaching. It is a kind of "eclecticism" in applying theory, viewing contending schools of thought "as a reservoir of available theories, techniques, and approaches to practice, from which the practitioner should choose elements according to the special features of the case before him" (cited in Schön, 1983, 313-314). Such eclecticism can help teachers 'try on' various theories, reflecting on their implications and consequences for practice with an eye toward instructional improvement. It should be noted, however, that a concern in this approach lies in "its implicit reliance on an unexamined idea of effectiveness;" eclecticism might create inconsistency or a lack of depth of knowledge about the frames one selects. While it is true that educational theory can be complex and contradictory, "it is also true that some practitioners do manage to make a thoughtful choice, or even a partial synthesis from the babble of voices in their professions" (Schön, 1983, 17-19). Personally, I believe teachers can make that choice or synthesis thoughtfully through the process of reflection.

To summarize reflection as a bridge between theory and practice, in addition to solving problems and examining assumptions, teachers can enhance the limitations of an their own singular understanding of a situation by tapping other perspectives revealed by theories.

Spontaneity and the Zen of Reflection

In addition to the types of reflection described above, reflection can be viewed as a 'way of being' that transcends strategy and practicality, approaching artistry in its execution. This view of reflection recognizes teaching as more than problem-solving and the application of theory; it has an element of intuition and Zen-like mindfulness.

As Tremmel (1993) explains, "mindfulness in simplest terms means to pay attention to 'right here, right now' and to invest the present moment with full awareness and concentration," consciously resisting the tendency for "thought and action [to] become 'entrapped' by reified categories and habitual and automatic behavior" (p. 443-445). This description invokes Eastern notions of transcendent awareness, although it might also be understood by exploring Western ideas about comparable concept. For example, Schön describes what he calls "reflection-in-action," which is characterized by "phrases like 'thinking on your feet,' 'keeping your wits about you,' and 'learning by doing' [which] suggest not only that we can think about doing but that we can think about doing something while doing it" in the manner of jazz musicians, athletes, and poets (Schön, 1983).

Reflection as mindfulness, while rather "esoteric" and "ungraspable" to many, is no less "direct and concrete [an] approach to experience" than other types of reflection (Tremmel, 1993, p.444). In fact, it might be seen as the most direct route to understanding a situation, for when one teaches with mindfulness, one "lives in the present and pays attention, pure and simple" (Tremmel, 1993, p.444). For example, imagine a class discussion in which a teacher hopes to get students to reach a deeper and perhaps particular level of understanding on a topic. Teachers not engaged in reflection-in-action might follow a scripted plan with discussion points carefully laid out. In contrast, teachers reflecting in the moment rely on the discussion itself to determine the plan. They can gauge students' understanding by concentrating on the discussion, being present in such a way as to participate in and guide understanding. They can follow students' thoughts, recognize degrees of confusion and insight related to the topic and the

goal of the discussion, and notice gaps in understanding along the way so as to induce students to fill them. With a turn in the stomach, a leap in the heart—physical and mental tugs and flashes that signal the need for a quick turn in the discussion, to keep it moving, to coax it along—teachers chase students' understanding until it *arrives* somewhere important and real. The spontaneity of this type of reflection suggests its reliance on intuition and emotion, so teachers can see what is happening *when* it is happening, "being able to respond at the moment" (Tremmel, 1993, p.450).

The difficulty involved in expressing this kind of Zen-like reflection is indicative of its elusiveness, but the elusiveness doesn't make it any less powerful. By being "more mindful of the thoughts and feelings that arise during a lesson," a teacher can sense the needs of both individuals and groups in a way not possible in the blanket application of lessons and theories. It's the difference between "doing the lesson rather than working with your students" (Tremmel, 1993, p.445). In contrast to the problem-solving and theoretical types of reflection, which one might say inform teaching practice before and after the fact, such "non-traditional, non-Western practices...enrich current teaching practices as they occur. Such enrichment has the potential to lead to a balanced and powerful blend of thought and action" (Tremmel, 1993, p.455).

Appreciating the Complexity

In this section of the paper, I have tried to represent reflection from different angles, or in its different "forms," which I find important in describing what it is good teachers do. Reflection is a habit in which effective teachers appreciate, apply, and synthesize aspects of good teaching—particularly when they become problematic, seem disconnected to practice, and are coming alive in the idiosyncratic world of the

classroom. The power of reflection lies in the way it thrives on the complexity of educational life. Although looking at reflection from different angles momentarily simplifies the concept for purposes of description, it is important to remember that these types of reflection are not mutually exclusive. In fact, they become intimately intertwined to compose a composite concept. For a complete picture of reflection, I turn to a surprising source: Tolstoy, from *On Teaching the Rudiments*.

> The best teacher will be he who has at his tongue's end the explanation of what it is that is bothering the pupil. These explanations give the teacher the knowledge of the greatest possible number of methods, the ability of inventing new methods and, above all, not a blind adherence to one method but the conviction that all methods are one-sided, and that the best method would be the one which would answer best to all the possible difficulties incurred by a pupil, that is, not a method but an art and talent (cited in Schön, 1983, p.66).

Tolstoy doesn't employ the term "reflection," but clearly his description of what good teachers do exemplifies the process.

The metaphor of reflection as art evokes a graceful image of complexity and wholeness. But examining and describing reflection alone may not show a novice how to reflect, any more than understanding and appreciating artistic masterpieces teach a beginner how to create one. The next section of this paper is devoted to exploring reflective practice from the learner's point of view. I turn to some ideas about how this information might be used to teach reflection in all of its various forms to new teachers.

Essentials of the Process

In the literature of reflection, and in my own experience, certain mental processes seem to comprise reflective practice. If teachers reflect to solve a problem, what do they think about? If teachers reflect on their own frame, what should they do? What about reflecting to link theory to practice? What about the elusive notion of reflecting in the moment? Simply knowing about types of reflection doesn't make them accessible or applicable, but understanding underlying reflective processes can offer guidance. A Typology of Reflection developed by instructors of the Teacher Education Program at the University of Washington (TEP Typology of Reflection) profiles three types of thought which seem to emerge in all types of reflection: description, comparison, and evaluation.

The TEP Typology's first type of reflection, what we call descriptive reflection, means, not surprisingly, that a matter upon which on is reflecting is described. This may involve describing a classroom concern (reflection as problem-solving), describing a bias or an assumption (reflection as frame analysis), describing a theory (reflection to link theory to practice), describing feelings or a tone or a level of understanding (reflection as mindfulness), to name a few examples. Fundamentally, description involves answering the question, "What's is happening?" But the simplicity of this question might be misleading, for descriptive reflection entails more than just reporting the facts of a case. Rather, descriptive reflection involves finding what is *significant* to describe about a matter, recognizing the salient features of a situation so as to extract and study causes and consequences, alter them if necessary, and put them back into context for the purpose of envisioning or creating change. Perhaps the skill of reflective description seems so basic that it hardly needs explaining, much less practicing. Yet it is a critical step in the process

of reflecting; undervaluing the importance of description can lead to a misinterpretation of a situation. Thinking again of Karen Evans (1995), her initial descriptions of the writer's workshop failure focused on students' unwillingness to write. Later, she altered the description to represent the situation more accurately: her students were writing successfully in other contexts, just not in writer's workshop. Fairly, carefully, and persistently describing what is happening that is significant can help us to avoid jumping to conclusions, or only seeing only what we want to see.

In the TEP Typology's second type of reflection, comparative reflection, we compare several interpretations of a matter, from alternative ways of doing a lesson or approaching a problem to different perspectives and outlooks on life. The value of comparison is that it opens up possibilities otherwise unavailable. We ask ourselves (or better yet, ask others) how we might reframe a situation differently. A school counselor, an ethnographer, or a parent will use a much different lens than a teacher. Culturally diverse people may offer competing interpretations. A student's point of view also provides valuable insight. Comparative reflection involves seeking others' opinions to inform, confirm, or refute our own limited perspectives. Without this type of collaborative thought, Evans may never have solved her writer's workshop dilemma, for her colleagues and students were instrumental in identifying a solution.

Evaluative reflection, the third type of reflection in the TEP Typology, involves making a judgment. It is in this type of reflection that we consider the matter at hand in light of the different perspectives with an eye toward changing it, asking ourselves, "What is the *best* way of understanding, changing, or doing this?" When we evaluate, we consider implications of our practice—those implications being weighed, then, against

associated goals, morals, values, and ethics which help us know whether a course of action is a "good" one. Such thinking always begs the question about whose opinion of "good" is being applied. Thus, evaluative reflection implies a moral responsibility to not only to understand a situation or see it from another point of view, but to face the consequences of such insight and make concordant kinds of decisions or transformations of thought. Hence, Evans decides to approach writing in a new way according to her class's needs.

These three types of reflective thought—descriptive, comparative, and evaluative—combine to create a deep thinking process. Returning to the Evans example once again, we see her describing her students' reluctance to write, comparing the situation to what she expects writer's workshop to be, describing her students' lack of success with their family stories, comparing the stories to their writing in other classes, comparing her ideas to those of other experts like the Chapter 1 teacher, describing her students' home life, describing her own assumptions about the values of writer's workshop as she begins to understand them, comparing those values to her class, and ultimately evaluating her decisions about how she will teach writing to this class. Her instruction is profoundly changed by reflection that proceeds not in a systematic series of steps, but by loops and leaps over many months' time. Figure 1 presents one way of illustrating the non-linear nature of reflection.

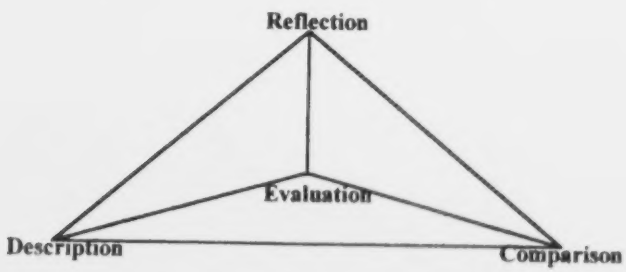

Figure 1: A non-linear view of reflection

Evans' example helps us see reflection as a personalized process—one that, we could imagine, would vary with the situations and would be unique to an individual's own thoughts, experiences, and ways of understanding the world. But how, then, can this natural and very personal notion of reflection be taught? Perhaps the types of reflective thought can be used to create purposeful thinking and arrive at a better understanding. Figure 2 shows a series of questions which might guide reflection.

Figure 2: Guiding Questions for Reflection

Type of Reflection	Definition	Typical Questions
Descriptive	**Describes the matter for reflection**	***What is happening? Is what's happening working, and for whom? For whom is it not working? How do I know? What am I pleased about? What am I concerned about? What do I not understand? If there is a goal, what is it, and is it being accomplished?***
Comparative	**Compares to alternative views of the matter based on a variety of sources by reconsidering the matter in another way, consulting others, consulting research, etc.**	***Why do I think this is happening? What are some different explanations? What are alternative views of what is happening? How would the other people involved describe and explain this situation? How would people not involved describe and explain what's happening? What does the research contribute to an understanding of this matter? How can I improve what's not working? How else could I do that? If there is a goal, what are some other ways of accomplishing it? How do other people accomplish this goal? What are the implications of the matter when viewed in these alternative perspectives?***
Evaluative	**Uses description and alternatives to make a judgment about the matter**	***Given these various alternatives, their implications, and my own personal morals and ethics, which is the best alternative for this particular matter? Who is served by this decision, and who is not?***

Walking oneself through descriptive, comparative, and evaluative types of thought can serve several purposes in the process of reflecting. First, by asking a broad

range of questions, we force ourselves to look at the situation carefully in several different ways, and can use multiple frameworks to consciously "check" thinking. Second, by attending to descriptive, comparative, and evaluative reflection, one draws oneself closer to the important questions that tend to surface in evaluative thought. In isolation, the different types of reflective thought can be much less effective, for people cannot fairly evaluate something if they haven't made objective comparisons; nor can they adequately compare things they can't even describe. But the types of thought viewed as a *process* can result in powerful understanding; ideas are thorough and complex and meaningful, and take one to a deeper level of understanding.

Viewing the types of thought as a process can also be helpful for the student learning to reflect. Imagine a student teacher reflecting on her practice, expressing frustration but only a vague sense of why. An impulsive response might involve negative, stagnant, or ineffective ways of thinking such as complaining, or feeling frustrated, deflated or incapable. An intentional response might rather involve more positive, effective, and functional thought (i.e., reflection), like describing what happened, comparing this description to other perspectives, and evaluating how the same situation might be handled it were to happen again. Descriptive, comparative, and evaluative thought can be can be viewed as a process of reflection directed toward a purpose; the process sequence can be viewed as a way of scaffolding thinking to help students become more reflective.

To summarize, three types of thought that seem to be consistent in reflection include description, comparison, and evaluation. These may be viewed as fluid and independent stages, or as a deliberate process. It is important not to overemphasize the

process however, as if reflection were a merely a series of steps. Such a view of reflection would seem restrictive, reducing it to the simplicity of a particular strategy. As discussed in the previous section of this paper, reflection is sometimes a strategy; it is also a disposition, a way of being, an art. As one considers the process of reflection, one should always bear in mind that the types of thought involved are only categories used to simplify the concept for the purpose of examination, and for the purpose of guiding one's own thoughts. Doing so, however, does not reduce the complexity of reflection; it only provides a manageable place to start.

Conclusion

In conclusion, I hope this paper has helped free an understanding of the entangling complexity of reflection without unraveling the concept itself, and contributed some ideas about teaching new teachers to tie reflective knots of their own.

Dewey wrote, "We should ridicule a merchant who said that he had sold a great many goods although no one had bought any. But perhaps there are teachers who think that they have done a good day's teaching irrespective of what pupils have learned" (Dewey, 1933, p. 35). The fear Dewey expresses here is that teachers who don't reflect upon their practice might be terribly ineffective without ever knowing it. But knowing that good learning results from good teaching, teachers can assess their own teaching, by describing, comparing, and evaluating what's happening in their classroom by reflecting in various ways. Using reflection as a problem-solving technique, they can *know* a good day's teaching because they can recognize and solve the problems that arise. Through reflection as frame analysis, they can examine their own biases and assumptions and change them where change is required. Applying reflection as a bridge between theory

and practice, they can learn from new theories and apply them directly to their classroom. Reflecting with Zen-like mindfulness, they can be present in the moment in such a way that teaching moves to the rhythm of their students. In short, teachers can know a good day's teaching when they see one by practicing the art of reflection.

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